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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,944

05/04/2005

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MERCK-3010

9585

24997 7590 04/29/2008
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EXAMINER

NGUYEN, THUY-AI N

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,944	Applicant(s) BORNER ET AL.	
	Examiner THUY-AI N. NGUYEN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's response file on 01/11/2008 has fully considered. Claim objection is withdrawn.

Claims 1- 14 have been amended. Claims 1- 14 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4- 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. (US. 2005/0042198).

Regarding claim 1, Smith et al. teach the solution comprising alkaline compound (sodium hydroxide, example 4, p. 3), hydrogen peroxide [0004], water (example 4), and Bis(2-hydroxyethyl)iminotris(hydroxymethyl)methane [Bis-Tris] (p.5, claim 13), and chelating agent nitrilotriacetic acid [0005]. Smith et al. inherently teach this solution being used for treating metal impurity contamination as claimed by the applicant in claim 1 because it contains all of the ingredients as claimed.

Regarding claim 4, Smith et al. teach the solution comprising from about 0.001 to 10 percent of the buffer (abstract) including Bis(2-hydroxyethyl)-iminotris-(hydroxymethyl)-methane [Bis-Tris], which is within the range as set by the applicant.

Regarding claim 5, Smith et al. teach the solution comprising from 0.00001 to 0.1 percent of chelating agents (nitrilotriacetic acid) [0004- 0005], which is about 0.1ppm to 1000ppm.

Regarding claims 6 and 7, Smith et al. teach the solution, wherein the total amount of Bis(2-hydroxyethyl)-iminotris-(hydroxymethyl)-methane [Bis-Tris] and nitrilotriacetic acid is less than 4000ppm and less than 2000ppm (see rejection of claims 4 and 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2- 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US. 2005/0042198) as applied to claim 1 above, and further in view of Gressel et al. (US. 5,209,927).

Regarding claims 2- 3, Smith et al. teach the solution as described above. However, Smith et al. do not teach the solution comprising ammonia or ammonium hydroxide as the alkaline compound. Gressel et al. teach the ophthalmic solution comprising sodium hydroxide and ammonium hydroxide (col. 3: 40- 48). Gressel et al. show the alternative equivalence of sodium hydroxide and ammonium hydroxide as pH adjusting agents. Smith et al. and Gressel et al. are analogous art because they have the similar technical difficulty of making the solution or composition using for eye relation. At the time of the invention, it would have been obvious to one of ordinary skill in the art to substitute ammonium hydroxide of Gressel et al. in the teaching of Smith et al. for the same purpose of using sodium hydroxide in the teaching of Smith et al..

Claims 8- 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US. 5,290,361) in view of Smith et al. (US. 2005/0042198) as in evidence of Kakizawa et al. (US. 6,514,921).

Regarding claim 8, Hayashida et al. teach a method of cleaning semiconductor substrate with the cleaning solution comprising a step of treating the substrate with a cleaning solution, rinsing and drying (examples 1-10), wherein the cleaning solution comprises the alkaline compound such as ammonium hydroxide, hydrogen peroxide, water (abstract), chelating agent EDTA, nitrilotriacetic acid (NTA, col. 5: 1- 10).

Hayashida et al. do not teach the method for cleaning semiconductor, wherein the cleaning solution comprises 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris]. Smith et al. teach a solution for wetting, cleaning and rinsing contact lens comprising alkaline compound (sodium hydroxide, example 4, p. 3), hydrogen peroxide [0004], chelating agent nitrilotriacetic acid, EDTA [0005], water (example 4, p. 3) and buffer [0003] including 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris] (claim 13, p. 5). Hayashida et al. and Smith et al. are analogous arts because they teach about the similar cleaning solution comprising alkaline solution, hydrogen peroxide, water and chelating agents. Kakizawa et al. teach of using buffer in the semiconductor cleaning solution (col. 5: 10- 15). As in evidence of Kakizawa et al., at the time of the invention, it would have been obvious to one of ordinary skill in the art to add buffer 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris] of Smith et al. in the teaching of Hayashida et al. to maintain the pH within the desired range and achieve the cleaning efficacy of the solution or composition.

Regarding claim 9-12, Hayashida et al. teach a method of cleansing semiconductor substrates at room temperature (col. 8: 5-15), and at 70 degree of Celsius for 10 minutes (examples 1-12).

Regarding claim 13, Hayashida et al. teach a method of cleaning semiconductor substrate comprising a step of immersing the substrate (wafer) into the solution (examples 1-12).

Regarding claim 14, Hayashida et al. teach that the solution can be used for cleaning surface of semiconductors (col. 1: 5-9).

Response to Arguments

Applicant's arguments with respect to claims 1- 14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY-AI N. NGUYEN whose telephone number is (571)270-3294. The examiner can normally be reached on Monday-Friday: 8:30 a.m. - 5:00 p.m. eastern time.

Correspondence

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARK EASHOO/
Supervisory Patent Examiner, Art Unit 1796
27-Apr-08

April 11, 2008
Patent Examiner
Thuy- Ai N. Nguyen

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